

CLAIMS

- 1 1. A translation system, comprising:
- 2 (a) a client for sending a translation request using a distributed object protocol, the
- 3 translation request comprising text to be translated, the client also for receiving a response
- 4 to the request using the distributed object protocol corresponding to a translation of the
- 5 text from a first language to a second language; and
- 6 (b) a translation engine for receiving the translation request using the distributed
- 7 object protocol and for generating the response and sending the response to the client
- 8 using the distributed object protocol.
- 1 2. The translation system of claim 1 wherein the translation request and the response are sent
- 2 in accordance with an interface definition language (IDL), the IDL defining an interface at
- 3 the client and an interface at the translation engine.
- 1 3. The translation system of claim 1 wherein the distributed object protocol used by the client
- 2 and the translation engine operates in accordance with the Component Object Model
- 3 (COM) standard.
- 1 4. The translation system of claim 1 wherein the distributed object protocol used by the client
- 2 and translation engine operates in accordance with the common Object Request Broker
- 3 Architecture (CORBA) standard.
- 1 5. The translation system of claim 1 wherein the client and the translation engine are located
- 2 on the same computer.
- 1 6. The translation system of claim 1 wherein the client and translation engine are located on
- 2 different computers in communication with each other.
- 1 7. The translation system of claim 6 wherein the client and the translation engine
- 2 communicate over a wide area network.
- 1 8. The translation system of claim 6 wherein the client and the translation engine
- 2 communicate over a local area network.

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- 1 9. The translation system of claim 6 wherein the client and the translation engine
2 communicate over the world wide web.
- 1 10. The translation system of claim 1 wherein the text to be translated is represented by a
2 character set that includes characters used in a plurality of languages.
- 1 11. The translation system of claim 1 wherein the text to be translated is represented by
2 UNICODE.
- 1 12. The translation system of claim 1 wherein the translation request further comprises at least
2 one of the following: part-of speech setting, annotation, HTML markup; SGML markup,
3 RTF markup, NROFF markup, translation option, alternate word setting, alternate
4 translation, sentence-end annotation, translation guideline, translation hint, and an
5 indicator of discontinuities in the text.
- 1 13. The translation system of claim 1 further comprising a notification mechanism by which
2 the translation engine can inform the client of at least one error that occurs during
3 translation.
- 1 14. The translation system of claim 13 wherein the notification mechanism comprises a
2 callback interface having at least one error callback object, the callback interface defined
3 by an IDL, and wherein the translation engine informs the client of an error occurring
4 during translation by associating the error with the error-callback object.
- 1 15. The translation system of claim 1 wherein the client further comprises a user interface
2 having a translation service for accepting translation requests.
- 1 16. The translation system of claim 15 wherein the distributed object protocol used by the
2 client and the translation engine supports the user interface and a plurality of other user
3 interfaces.
- 1 17. The translation system of claim 1 wherein the distributed object protocol used by the client
2 and the translation engine supports the translation engine and a plurality of other
3 translation engines.

- 1 18. The translation system of claim 1 further comprising a registration mechanism by which
2 the translation engine can register itself to be found by the client, the registration
3 mechanism having an interface defined by an IDL.
- 1 19. The translation system of claim 18 wherein the registration mechanism includes
2 information relating to at least one component available with the translation engine.
- 1 20. The translation system of claim 18 wherein the component is chosen from the group
2 consisting of a user dictionary, syntax dictionary, user dictionary editor, dictionary
3 browser, secondary translation engine, alternate word finder, alternate sentence, sentence
4 end finder, background translation, fuzzy translation matching, part-of-speech settings,
5 selective translation, and translation memory archives.
- 1 21. The translation system of claim 1 wherein the translation request further comprises
2 information relating to a desired format of the translation and wherein the translation
3 engine uses a translation preferences object responsive to the information for controlling
4 how the translation engine processes the translation request from the client, the translation
5 preferences object having an interface defined by an IDL;
6
7 wherein the translation engine generates a response to the translation request using the
8 distributed object protocol in accordance with the desired format of the translation.
- 1 22. The translation system of claim 21 further comprising a preference editor for permitting
2 the client to input the desired format of the translation to the preference editor using the
3 distributed object protocol, the preference editor having an interface defined by an IDL,
4 wherein the preference editor provides the information relating to the desired format of
5 the translation to the translation engine as a translation preference object using a
6 distributed object protocol.
- 1 23. The translation system of claim 1 wherein the translation engine further comprises a
2 synchronous translator for providing the client with an immediate response to the
3 translation request using a distributed object protocol, the synchronous translator having
4 an interface defined by an IDL.

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1 24. The translation system of claim 1 wherein the client further comprises a script-enabled
2 application for calling the synchronous translator, wherein text in the application can be
3 translated by providing script in the application that calls the synchronous translator using
4 a distributed object protocol.

1 25. The translation system of claim 1 wherein the client further comprises a source that
2 provides the text to be translated and a location for storing the response sent by the
3 translation engine, and wherein the translation engine further comprises an asynchronous
4 translator for providing the client with the response to the translation request using the
5 distributed object protocol while the client is performing other actions, the asynchronous
6 translator having an interface defined by an IDL;

7
8 wherein the source provides the asynchronous translator with the text to be translated
9 using the distributed object protocol; and

10
11 wherein the location receives the response sent by the asynchronous translator using a
12 distributed object protocol.

1 26. The translation system of claim 25 wherein the client polls the asynchronous translator
2 using the distributed object protocol for information relating to the progress of the
3 translation.

1 27. The translation system of claim 25 wherein the asynchronous translator provides to the
2 client information relating to the progress of the translation while the translation is
3 occurring using the distributed object protocol.

1 28. The translation system of claim 1 wherein the client further comprises a progress object
2 for receiving information from the translation engine regarding the progress of the
3 generation of a response by the translation engine using the distributed object protocol,
4 the progress object having an interface defined by an IDL.

1 29. The translation system of claim 1 further comprising an alternate word server for locating
2 at least one alternate word choice in response to a request from the client using the
3 distributed object protocol, the alternate word server having an interface defined by an

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IDL, wherein the alternate word server communicates the alternate word choice to the client using a distributed object protocol.

30. The translation system of claim 1 further comprising an alternate sentence server for locating at least one alternate sentence choice in response to a request from the client using the distributed object protocol, the alternate sentence server having an interface defined by an IDL, wherein the alternate sentence server communicates the alternate sentence choice to the client using a distributed object protocol.

31. The translation system of claim 1 further comprising a sentence end server for determining the ends of sentences and the positions of sentences in the text in response to a request from the client using the distributed object protocol, the sentence end server having an interface defined by an IDL, wherein the sentence-end server communicates this information to the client using a distributed object protocol.

32. The translation system of claim 1 further comprising a part-of-speech registration mechanism indicating the parts of speech available at the translation engine, the part-of-speech registration mechanism having an interface defined by an IDL, wherein the part-of-speech registration mechanism communicates this information to the client using a distributed object protocol.

33. A translation method, comprising:

- (a) sending a translation request from a client to a translation engine using a distributed object protocol, the translation request comprising text to be translated from a first language to a second language;
- (b) receiving, at the translation engine, the request using the distributed object protocol;
- (c) performing, at the translation engine, a translation of the text from a first language to a second language in response to the received translation request, said translation producing a response corresponding to the translation of the text from the first language to the second language; and
- (d) sending the response from the translation engine to the client using the distributed object protocol.

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1 34. The method of claim 33 wherein the step of sending a translation request from a client
2 further comprises sending a translation request from a client to a translation engine in
3 accordance with an IDL defining an interface at the client and an interface at the
4 translation engine.

1 35. The method of claim 33 further comprising the step of providing a registration mechanism
2 by which the translation engine can register itself to be found by the client, the registration
3 mechanism having an interface defined by an IDL.

1 36. The method of claim 33 wherein the stop of sending a translation request further
2 comprises sending a translation request further comprising information relating to a
3 desired format of the translation; and
4

5 wherein the step of performing a translation of the text further comprises performing a
6 translation of the text in accordance with the desired format of the translation.

1 37. The method of claim 33 further comprising the step of providing a notification mechanism
2 by which the translation engine can inform the client if it is unable to perform a translation
3 in accordance with the desired format of the translation, the notification mechanism having
4 an interface defined by an IDL.

1 38. The method of claim 33 further comprising the step of scanning the translation request for
2 at least one irregularity in the text prior to performing a translation, the irregularity
3 selected from the group including undefined word, undefined string, undefined character,
4 spelling error, and punctuation error.

1 39. The method of claim 33 further comprising the step of providing information to the client
2 regarding the progress of the generation of the response at the translation engine in
3 accordance with the distributed object protocol.

1 40. The method of claim 33 further comprising the step of providing a notification mechanism
2 in accordance with the distributed object protocol by which the translation engine can
3 inform the client of at least one error that occurs during translation, the notification
4 mechanism having an interface defined by an IDL.

1 41. A translation system comprising:

2 (a) a plurality of translation engines, each translation engine for receiving a translation
3 request using a distributed object protocol and for generating a response and forwarding
4 the response to the translation request using the distributed object protocol, the translation
5 request comprising text to be translated from a first language to a second language, and
6 the response comprising a translation of the text from the first language to the second
7 language; and

8 (b) a client for sending the translation request to any of the plurality of translation
9 engines using the distributed object protocol and for receiving the response from that
10 translation engine using the distributed object protocol.

1 42. The translation system of claim 41 wherein the translation request and the response are
2 sent in accordance with an IDL, the IDL defining an interface at each of the plurality of
3 translation engines and at the client.

1 43. The translation system of claim 41 further comprising a registration mechanism by which
2 each of the plurality of translation engines can register itself to be found by the client using
3 the distributed object protocol, the registration mechanism having an interface defined by
4 an IDL.

1 44. The translation system of claim 41 wherein the client further comprises a user interface
2 having a translation service for accepting translation requests and wherein the distributed
3 object protocol used by the client and the plurality of translation engines to communicate
4 supports a plurality of translation engines.

1 45. The translation system of claim 41 wherein the distributed object protocol used by the
2 plurality of translation engines and the client to communicate operates in accordance with
3 the COM standard.

1 46. The translation system of claim 41 wherein the distributed object protocol used by the
2 plurality of clients and the translation engine to communicate operates in accordance with
3 the CORBA standard.

- 1 47. The translation system of claim 41 wherein the translation request further comprises
2 information relating to a desired format of the translation so that the translation engine
3 that receives the translation request can generate the response in accordance with the
4 information using the distributed object protocol.
- 1 48. The translation system of claim 41 further comprising a notification mechanism for
2 informing the client about the availability at each of the plurality of translation engines of
3 the desired format of the translation using the distributed object protocol, the notification
4 mechanism having an interface defined by an IDL.
- 1 49. The translation system of claim 41 wherein the plurality of translation engines generate a
2 plurality of responses corresponding to a translation of the text from the first language to a
3 plurality of second languages using the distributed object protocol.
- 1 50. The translation system of claim 41 wherein the client and at least one of the plurality of
2 translation engines are located on the same computer.
- 1 51. The translation system of claim 41 wherein the client and at least one of the plurality of
2 translation engines are located on different computers in communication with each other.
- 1 52. The translation system of claim 41 wherein the client and at least one of the plurality of
2 translation engines communicate using a proxy server.
- 1 53. A translation system, comprising:
2 (a) a plurality of clients, each for sending a translation request using a distributed
3 object protocol to at least one translation engine and each for receiving a response to the
4 translation request using the distributed object protocol, the translation request comprising
5 text to be translated from a first language to a second language and the response
6 corresponding to a translation of the text from a first language to a second language; and
7 (b) a translation engine for receiving at least one translation request from any one of
8 the plurality of clients using a distributed object protocol and for generating a response
9 and forwarding the response to the request to that client using the distributed object
10 protocol.

- 1 54. The translation system of claim 53 wherein each of the plurality of translation requests and
2 the response are sent in accordance with an IDL, the IDL defining an interface at each of
3 the clients and at the translation engine.
- 1 55. The translation system of claim 53 wherein the distributed object protocol used by the
2 plurality of clients and the translation engine to communicate operates in accordance with
3 the COM standard.
- 1 56. The translation system of claim 53 wherein the distributed object protocol used by the
2 plurality of clients and the translation engine to communicate operates in accordance with
3 the CORBA standard.
- 1 57. The translation system of claim 53 wherein each of the plurality of clients further
2 comprises a user interface having a translation service for receiving translation requests,
3 the user interface defined by an IDL, and wherein the distributed object protocol used by
4 the plurality of clients and the translation engine to communicate supports a plurality of
5 user interfaces.
- 1 58. The translation system of claim 53 wherein the translation engine and at least one of the
2 plurality of clients are located on the same computer.
- 1 59. The translation engine of claim 53 wherein the translation engine and at least one of the
2 plurality of clients are located on different computers in communication with each other.
- 1 60. The translation engine of claim 53 wherein the translation engine and at least one of the
2 plurality of clients communicate using the world wide web.
- 1 61. The translation system of claim 53 wherein the translation engine further comprises a
2 plurality of translation objects for maintaining a separate context for each translation
3 request that the translation engine receives, each translation object having an interface
4 defined by an IDL.
- 1 62. The translation system of claim 61 wherein at least one of the plurality of translation
2 objects is responsive to a translation request further comprising information relating to a
3 desired format of the translation, and wherein the at least one translation object is
4 responsive to the information so as to control how the translation engine processes the
5 translation request.